

*Handwritten initials*

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/767,423	HARA ET AL.	
	Examiner	Art Unit	
	Dang T. Nguyen	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 30 January 2004.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 30 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>6/25/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                              | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input checked="" type="checkbox"/> Other <u>Search history</u> .                  |

*Handwritten signature and date 8/20/05*

**RICHARD ELMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**

### DETAILED ACTION

1. This action is responsive to the following communications: the Application filed on January 30, 2004 and the Information Disclosure Statement filed on June 25, 2004.
2. Claims 1 – 20 are pending in this case. Claims 1, 6, 11 and 16 are independent claims.

### *Allowable Subject Matter*

3. Claims 1 - 20 are allowed.

The following is an examiner's statement of reasons for allowance:

**With respect to claims 1, 6, 11, and 16**, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "a spatial FIR filter assuming magnetic fields, which are supposed to be formed in the  $n$ -th-place bit line and the bit lines that are  $K$  in number by the current  $I(n)BL$ , to be discrete pulse response and assuming the coefficients  $g(0)$  and  $g(k)$  to be tap-gains is constituted of the  $n$ -th-place bit line and the bit lines that are  $K$  in number, and the coefficients  $g(0)$  and  $g(k)$  are defined such that data is written into the tunnel magnetoresistance device positioned in the overlap region of the  $m$ -th-place write-in word line and the  $n$ -th-place bit line and no data are written into the tunnel magnetoresistance devices positioned in the overlap regions of the  $m$ -th-place write-in word line and the bit lines that are  $K$  in number by means of a synthetic magnetic field based on a magnetic field generated by the current  $g(0).I(n)BL$  flowing in the  $n$ -th-place bit line, magnetic fields generated by the currents  $g(k).I(n)BL$  flowing in the bit lines that are  $K$  in number, and a magnetic field generated by the current  $I(m)RWL$  flowing in the  $m$ -th-place write-in word line".

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4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sakakima et al. (Patent Number: 5,459,678) discloses data writing-in action by applying a magnetic field on the magnetic film by feeding currents in each line.

Numata et al. (Pub. No.: US 2002/0051381 A1) discloses a write circuit is connected to the word lines and the sense lines for writing data into the magnetoresistance elements of the memory cells according to row and column addresses supplied from the address bus during a write mode of the MRAM.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Contact Information***

5. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

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Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC@uspto.gov](mailto:EBC@uspto.gov).

Dang Nguyen 8/11/2005